

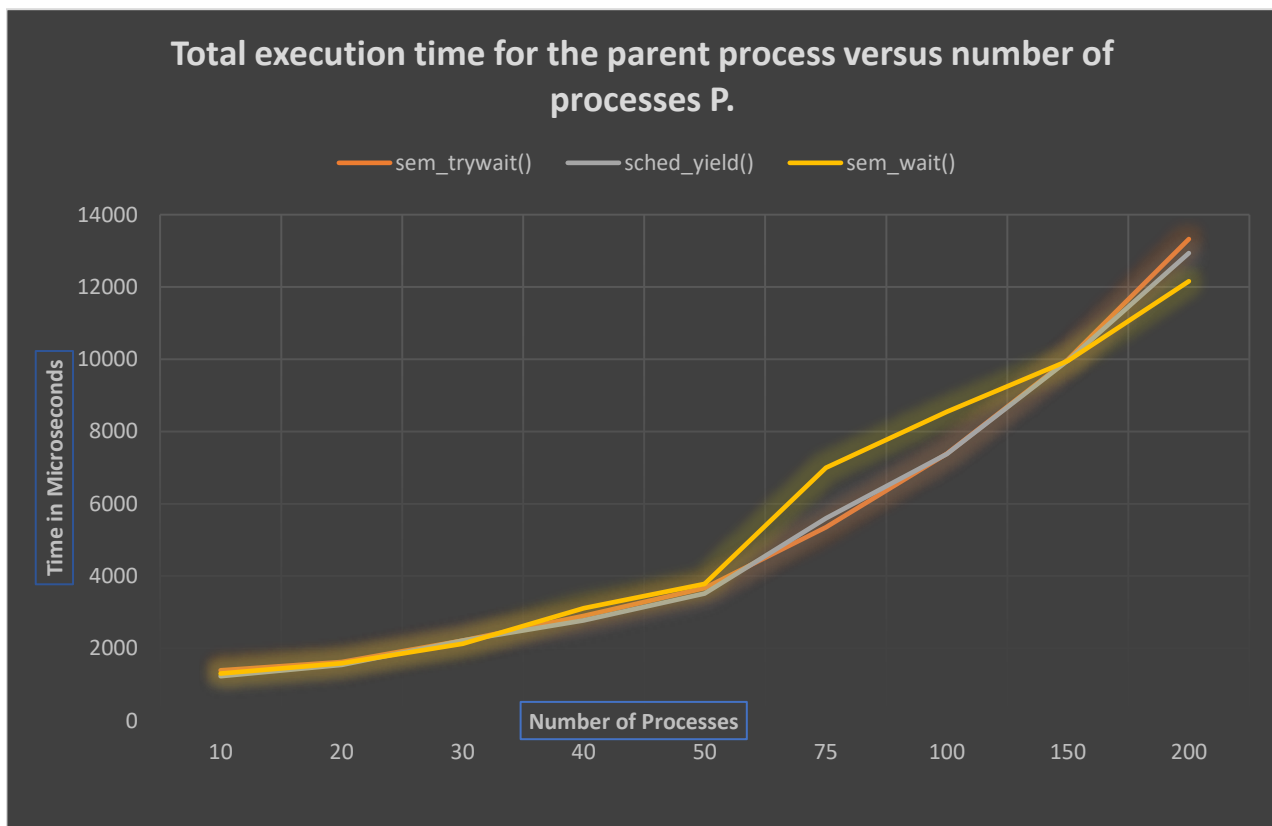
**M = 999999999**

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## Total execution time for the parent process versus number of processes P.

| Number of Children | sem_trywait() | sched_yield() | sem_wait() |
|--------------------|---------------|---------------|------------|
| 10                 | 1391          | 1229          | 1302       |
| 20                 | 1619          | 1545          | 1586       |
| 30                 | 2217          | 2213          | 2128       |
| 40                 | 2901          | 2774          | 3107       |
| 50                 | 3663          | 3517          | 3782       |
| 75                 | 5352          | 5596          | 6996       |
| 100                | 7383          | 7376          | 8550       |
| 150                | 9991          | 9960          | 9957       |
| 200                | 13325         | 12937         | 12158      |

As per the reading of the total execution of the parent process, it has been seen that the sem\_trywait() takes more time than other locks. The sequence of time required to execute is sem\_trywait() > sched\_yield() > sem\_wait()



**The average time to acquire the lock in each child process versus the number of processes P.**

| Number of Children | sem_trywait() | sched_yield() | sem_wait() |
|--------------------|---------------|---------------|------------|
| 10                 | 4             | 4             | 4          |
| 20                 | 6             | 7             | 6          |
| 30                 | 8             | 7             | 9          |
| 40                 | 9             | 9             | 10         |
| 50                 | 12            | 11            | 11         |
| 75                 | 12            | 13            | 12         |
| 100                | 13            | 14            | 15         |
| 150                | 17            | 15            | 16         |
| 200                | 19            | 18            | 17         |

It has been observed that the average time required to acquire lock by each child is greater in sem\_trywait() than other two locks. The average time ranging from 12microseconds to 19 microseconds for the following locks sem\_trywait(), sched\_yield() and sem\_wait()

